



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/789,593

02/27/2004

W. Brian Christie

283359-00338

7942

7590

06/20/2006

Kirk D. Houser
Eckert Seamans Cherin & Mellott, LLC
44th Floor
600 Grant St.
Pittsburgh, PA 15219

EXAMINER

PIPALA, EDWARD J

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/789,593	Applicant(s) CHRISTIE ET AL.	
	Examiner Edward Pipala	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 37-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to Applicant's election and remarks received 4/7/06, in which claims 7-36 were elected without traverse.

Non-elected claims 1-6 and 37-41 are hereby withdrawn from consideration in the present application.

Information Disclosure Statement

2. Applicant's IDS citations filed with the application on 2/27/04 and also on 3/15/06 have been fully considered by the Examiner as indicated by the accompanying initialed copies of Applicant's form PTO-1449.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-10, 17-23, 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al (USPN 6,871,137) in view of Hawthorne et al. (US Pub. 2002/0010531 A1).

With respect to independent claims 7 and 29, which essentially recite a geographic information display system and database for "displaying said geographic information regarding said track section occupied by said train with said geographic information regarding said static roadway data and said static track data", once the

Art Unit: 3663

geographic starting and ending position of a track section occupied by the train are determined.

Scaer et al. disclose a web-based transportation decision support system and geographic information system (GIS) application that uses information available from federal, state, local, and commercial transportation sources, and provides users with detailed road and rail information about routes and infrastructure characteristics, as well as real-time information from cameras, speed sensors, construction and accident reporting systems, and GIS based weather. Additionally, the invention provides users with the immediate ability to track and report surface shipments on an extremely accurate spatial data background. However, even though Scaer et al. discloses providing users with detailed road and rail information and real time tracking, Scaer et al. does not disclose relating the detected position of a train with respect to a particular section of track, per se.

Hawthorne et al. disclose a method of determining train and track characteristics using navigational data, in part by two or more position determining devices at spaced locations along the train, thereby determining the location of the train on the track by comparing the collected position data with previously stored track profiles and characteristics (section 0011 and sections 0034 -0036). Further, figure 2 shows relating the beginning and ending positions of a section of track with GPS coordinates in the form of latitude and longitude.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the GPS track section location teaching of Hawthorne et al., within the context of the GIS and web-based information system of Scaer et al., primarily because Scaer et al. already teaches tracking of vehicle and

Art Unit: 3663

shipments in conjunction with display thereof on a detailed road and rail network, but also because the GIS data for the road and rail information normally includes GPS/latitude-longitude position information as part of its format and design.

With respect to claims 8-10 and 17-23 which recite the use of latitude and longitude coordinates to identify nodes or sections and the display of same, as well as reciting that the geographic information system database is comprised of separate layers for roadway and track data, respectively, please see the section of Scaer et al. starting at the heading Summary of the Invention (col. 2, l. 30) through to the bottom of column 3. Additionally, column 10, line 30 through col. 11 line 11 and in particular col. 12, ll. 29-50 (wrt data layers and the display of rail information).

4. Claims 11-16 and 24-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al. and Hawthorne et al., as applied to claims 7-10 and 17-23 above, and further in view of Kane et al. (US Pub. 2004/0182969 A1).

The combination of Scaer et al. and Hawthorne et al. discussed above with respect to claim 7 provides for display of a section of track which a train is determined to be occupying, but does not provide or disclose determining the starting/ending positions of "another track section", a "cleared" track section to be occupied by the train at a future time, nor a "planned" track section, etc.

Kane et al. discloses a train control "block" system (as shown in figure 2), in which train position information used in conjunction with track information to determine the status of the next (cleared/another) section of track, and a yet "further" or "cleared" section of track.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have been aware and have used the known train management and control (block) system of Kane et al., within the context of the above combination of Scaer et al. and Hawthorne et al., at least because all are in the same field of train position location and control, and because Scaer et al. in particular teaches the use of vehicle dispatch systems and real time tracking.

With respect to claims 11-13 which recite determining another track section is occupied and yet another cleared, and claims 14-16 which recite similar subject matter but also with the use of colors to designate these three block track sections, please see sections 0012-0016 of Rutledge et al. which disclose the use of the colors green, yellow and red in designating whether sections of track are occupied or ready to be occupied by the train.

With respect to claims 24 and 25, once again reciting determining and display of occupancy of track sections, please see the same sections as noted supra.

5. Claims 31-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al. and Hawthorne et al., as applied to claims 7-10, 17-23, 26-30 above, and further in view of Rutledge et al. (USPN 6,650,998).

With respect to claim 31, the combination of Scaer et al. and Hawthorne et al. discussed above with respect to claims 29 and 30 above, provides for a web-based geographic information system which provides users with tracking and track section information for displaying the location of a train, but does not particularly address the claimed issues with respect to a translation routine for relating track starting and ending positions with the geographic information contained in the GIS data record file.

Rutledge et al. also discloses an information search and display system, as well as explaining the process of displaying multiple layers of GIS information through the conventional techniques of using vector and raster formats (column 3, lines 31-44, col. 4, ll. 16-64).

Accordingly, it was and would have been obvious to one of ordinary skill in the art at the time the invention was made to have made use of the teachings of Rutledge et al. with respect to display presentation of a layered GIS based information search system so as to provide a visible representation of latitude and longitude related information, because these principles would most likely have been used to display the layered GIS database information of Scaer et al. as well.

With respect to claim 32, and the recitation of an image generator routine, please see col. 4, ll. 16-64 of Rutledge et al.

With respect to claim 33 and the recitation of associating geographic areas with starting longitude and starting latitude, etc., previously noted line 31-36 of column 3 of Rutledge et al., discloses use of a database having location/coordinates, whereas it was also previously noted that longitude/latitude coordinates and part of the GIS format for data elements and their files, within the separate layers of road and rail data.

With respect to claim 34-36, and the recitations of a global communication network, web browser, display applets and streaming vector based display outputs for displaying train position, for the most part please see figure 1 of Rutledge et al., as well as the bottom of column 3 and most of column 4, which disclose the conventional manner in which a GIS type spatial data is displayed when it is constructed of a multitude of user selectable layers.

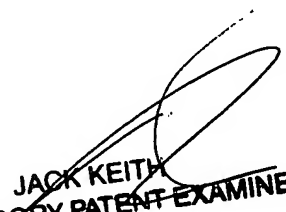
Conclusion

6 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Pipala whose telephone number is 571-272-1360. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJP


JACK KEITH
SUPERVISORY PATENT EXAMINER